AND-320 Voice Switching and Recording
Risk Management Plan

The Federal Aviation Administration
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Washington, DC 20591

Not Approved for public release;
distribution is limited, at the discretion of the AND-320 Product Team Lead.

Approved: _____ 3/6/03

James Little, AND-320 VS&R Product Team Lead

REVISION HISTORY

*A-Added M-Modified D-Deleted

Version Number	Date	Figure(s), Table(s) or Paragraph(s) Affected	A* M D	Brief Description of Change
Draft	1/10/03	All		Original Draft Risk Management Plan
Draft, R1	1/14/03	All	M	Incorporate Initial Comments
Initial Release	2/19/03	All	M	Incorporate Additional Comments; require both Acquisition Team level & AND-320 level Risk Management Databases.

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1.0 INTRODUCTION

1.1 Document Overview

This document provides guidelines and techniques for managing risk. Section 1 provides an overview of the Risk Management Plan. Section 2 defines the process description, identifying the responsibilities and procedures taken to identify, analyze, track, report and mitigate risks. Section 3 defines the metrics that will be used for this plan. The appendices provide examples of the forms and reports that will be used by each Risk Management Team to track their acquisition risks. The Risk Management Plan will be reviewed and revised when necessary.

1.2 Definition

Risk – a situation or circumstance which creates uncertainties about achieving program objectives.

1.3 Purpose of Risk Management Plan

The purpose of the Risk Management Plan is to identify and analyze risks to the achievement of acquisitions within AND-320's Voice Switching and Recording Team and to execute plans that reduce the likelihood and/or consequence of risks that meet mitigation criteria. Present acquisitions within AND-320 include Command Center Conference Control System, Enhanced Terminal Voice Switch, Integrated Communications System, Rapid Deployment Voice Switch Model IIA, Terminal Voice Switch Replacement Program, Voice Recorder Replacement Program and Voice Switching and Control System. The overall risk management philosophy for the AND-320 Team is to manage risk as an iterative process within each individual acquisition. As risks are identified and assessed, contingency plans will be formulated and implemented. The risk of an undesirable event occurring can only be mitigated if the contingency plan is activated in a timely manner. Therefore, milestones and update rates are synchronized with contingency plan activation requirements. As risks are overcome and new risks emerge, the plan will be updated.

The Risk Management Plan involves developing life cycle risk management approaches that specify the processes and methods used to identify, assess, monitor, and mitigate acquisition risks. Risks will be identified by evaluating acquisition characteristics in the context of historical sources of risk. Acquisition risks will be analyzed to quantify their likelihood of occurrence and severity of consequence. Appropriate risk mitigation actions will then be selected based on analysis of alternatives and established action thresholds. Risks and the effectiveness of mitigation actions are monitored and evaluated for corrective action.

Each acquisition contractor's ability to identify, assess and mitigate risk is also part of the Risk Management Plan because the risk management skills of each contractor directly affect the overall risk associated with each acquisition. Program Management Reviews with the contractor will identify potential deviations in cost, schedule and performance requirements and formulate "get well" plans to rectify the acquisitioned deviations.

The procedures in this document define the risk management process that will be followed by each acquisition team. The procedures describe how to identify and prioritize risks, identify risk reduction techniques, develop risk contingency plans, identify the measures to track the risks, and implement contingency plans, when required.

1.4 Process Overview

The risk management process deals with the concerns government and contractor personnel have regarding the development, testing, fielding and maintenance of the AND-320 acquisitions. It attempts to identify what could limit or prevent a system from achieving its functional and performance objectives within cost and schedule constraints.

Risks are grouped into three areas: technical, schedule or cost. Technical risks include all events that may prevent the acquisition from satisfying requirements, including performance, supportability, maintainability, and regulatory requirements. Schedule risks are events that may prevent the timely execution of tasks identified in the acquisition plan. Cost risks are events that may cause the actual costs to exceed estimated costs.

A continuous process of risk management activities within each acquisition team will reassess the status of identified risks, identify new risks, monitor the effectiveness of implemented risk reduction techniques, track the risks, and flag when contingency plans should be implemented. Each acquisition team will track their risk activities in a Risk Management Database. A summary of these activities will also be tracked in a separate AND-320 Risk Management Database. The FAA's Risk Radar™ Version 4.5 (or later) will be used as the Risk Management Tracking Tool for each acquisition and will also be used for the AND-320 Risk Management Database.

Figure 1 is an overview of the risk analysis and management process presented in this document. The roles, responsibilities, and activities associated with each step are discussed in Section 2. Each acquisition team within AND-320 is required to implement this process.

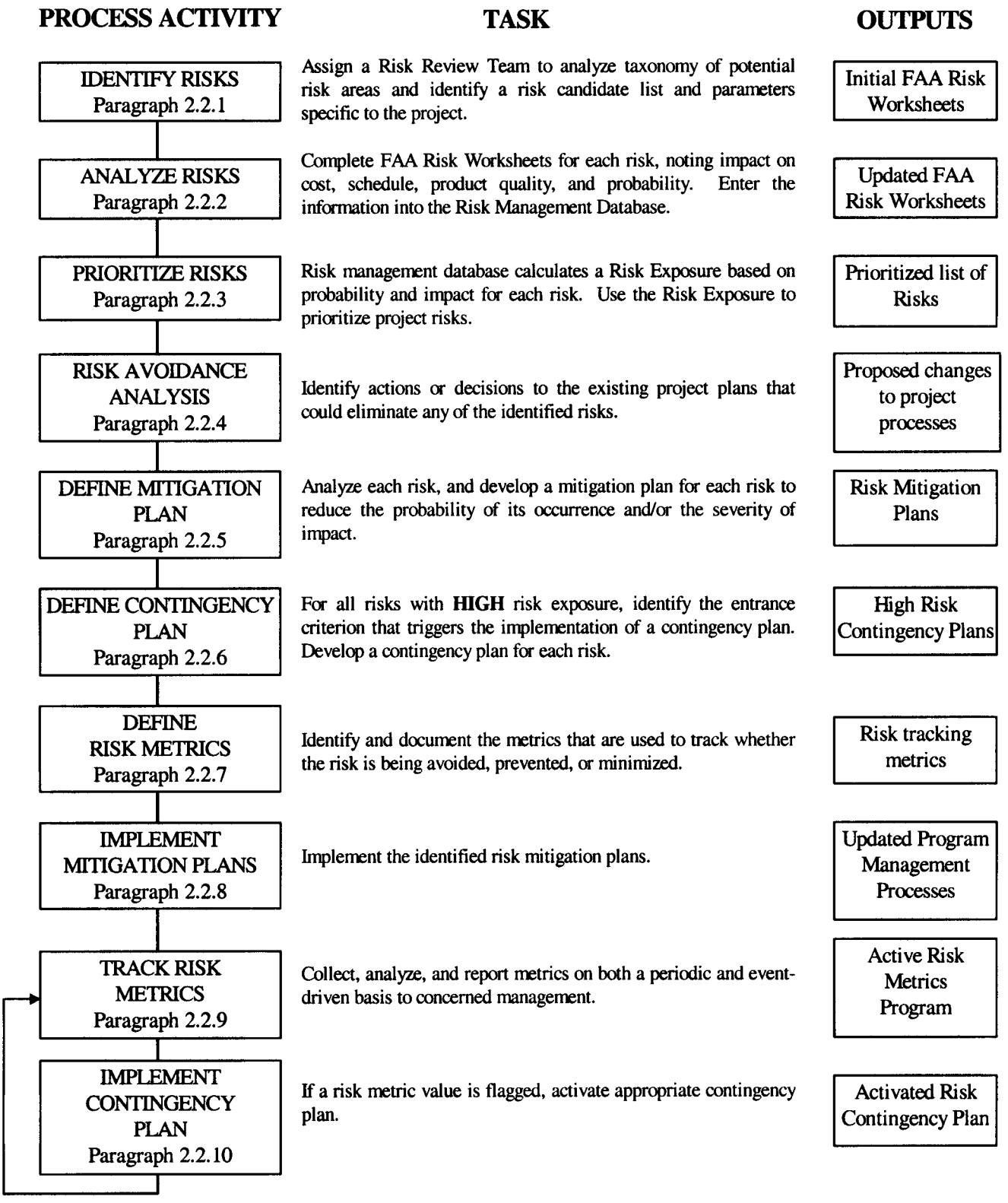


Figure 1 - Risk Analysis and Management Process

1.5 Referenced Documents

a. Ken Kepchar, Integrated Program Management Team, AND-230. FAA Programmatic Risk Management V2.6, SEC Engineering Series, March 2002. Used to develop risk management process.
b. FAA integrated Capability Maturity Model, Version 2, dated September 2001, Process Area 13 (Risk Management). Used to develop and execute the risk mitigation process for the AND-320 Product Team.
c. FAA Risk Radar™ Version 4.5 & User's Manual, September 2002. Used for Risk Management Database and tracking.
d. AND-360 Risk Management Plan Version 4.2, April 15, 2002. Used as template for document and to promote commonality with AND-320 Product Team.

2.0 PROCESS DESCRIPTION

2.1 Responsibilities

The paragraphs below identify the individuals and teams of the Risk Management Process for each acquisition within AND320 and describe their corresponding responsibilities.

2.1.1 Acquisition Team Lead

The Acquisition Team Lead has overall responsibility for managing the risks associated with the development and maintenance of the acquisition, and insuring that risk management is performed in accordance with the process described here. The Acquisition Team Lead will:

- Provide adequate resources for risk management activities. Resources include funding, staffing, equipment, and tools.
- Designate as members of the Risk Review Team individuals who have risk management experience or have received risk management training.
- Schedule risk reviews with the Risk Review Team, as a minimum, on a quarterly basis.
- Serve as the Risk Management Lead performing risk management as described in this document and serve as facilitator for the assigned Risk Review Team.
- Contact any extended team member or subject matter expert to coordinate mitigation plan, as well as implementation of mitigation plan if required. Coordinate high-level risks and risk mitigation plans with FAA participants and stakeholders at Program Management Reviews, Team Meetings, etc.

2.1.2 Engineering Lead

The Engineering Lead serves as the lead technical advisor to the Risk Review Team. Coordination of technical risks with industry stakeholders is done in technical forums such as Technical Interchange Meetings, etc.

2.1.3 Risk Review Team

The Risk Review Team, led by the Acquisition Team Lead, is responsible for identifying the three facets of risk that affect a program: technical, schedule, and cost. The team will analyze the risks, assign responsibility for the development of risk mitigation and contingency plans, prioritize risks, and monitor the risk program. The Risk Review Team analyzes and documents any risks associated with the tasks the organization is required to perform.

Members of the team are identified and approved by the Acquisition Team Lead. The Risk Review Team will consist of minimum of five members of the Acquisition Team that represent a cross-section of the functional areas represented on the team. The following criteria should be used in selecting participants:

- Knowledge and experience in the technology areas of the effort being assessed
- Assigned to work in the area being assessed
- A mix of people with various applicable skills (e.g. development, test, quality assurance)
- Representation for any functional areas considered critical to the program
- Have received training on risk management

The Risk Review Team meets quarterly, once the Risk Management Plans and Contingency plans are defined and put in place.

2.1.4 Risk Practitioner

The risk practitioner is a Risk Review Team member or a working group lead, designated as the risk owner or the point of contact for any identified risk in his/her process area. Risk practitioners are responsible for attending meetings, providing updates, and selecting alternate representative when required. The individual performing actual work within a process area is identified as the "user" of the process.

2.1.5 Risk Stakeholder

The risk stakeholder provides input to the AND-320 acquisition management process and/or receives output from that process.

2.1.6 Risk Analyst

The risk analyst is responsible for maintaining the acquisition team's Risk Management Database (APPENDIX A) and for providing summary information and developing risk management work products and sample reports (APPENDIX B). Historical risk records and files (hardcopy and softcopy) are archived by the Risk Analyst.

There is also a Risk Analyst assigned at the AND320 level to maintain the AND320 Risk Management Database and provide appropriate summary information, work products and reports.

2.2 Procedures

The ten steps of the AND-320 team approach to the Risk Management Process are described in the paragraphs that follow.

2.2.1 Step 1: Identify risks

The first step is to conduct a risk management initiation session with the Risk Review Team to identify potential programmatic risks and to concur on acquisition defined risk parameters including the definitions of likelihood, consequences and risk horizon. These parameters need to be defined so that consistent risk assessments may be performed (see Step 3). At the Risk Review Team initiation session, the members are given a briefing and provided with a listing of potential risk areas. Risk Worksheets (part of APPENDIX A) are used to generate risk data for the AND-320 Risk Management Database.

The list of potential risk areas for a given task ("taxonomy") may be derived into a list like the one in Figure 3. The taxonomy establishes a basis for deciding whether a risk is applicable to the program and is useful in ensuring that all aspects of the program are considered. Each item on the list produced at the risk management initiation meeting will be subject to further analysis, with the pros and cons of applicability evaluated and further articulating detail provided.

A. Product Engineering
- 1. Requirements
  - a. Stability
  - b. Completeness
  - c. Clarity
  - d. Validity
  - e. Feasibility
  - f. Precedent
  - g. Scale
- 2. Design
  - a. Functionality
  - b. Difficulty
  - c. Interfaces
  - d. Performance
  - e. Testability
  - f. Hardware Constraints
  - g. Non-Developmental
- 3. Code & Unit Test
  - a. Feasibility
  - b. Testing
  - c. Coding/Implementation
- 4. Integration & Test
  - a. Environment
  - b. Product
  - c. System
- 5. Engineering Specialties
  - a. Maintainability
  - b. Reliability
  - c. Safety
  - d. Security
  - e. Human Factors
  - f. Specifications

B. Development Environment
- 1. Development Process
  - a. Formality
  - b. Suitability
  - c. Process Control
  - d. Familiarity
  - e. Product Control
- 2. Development System
  - a. Capacity
  - b. Suitability
  - c. Usability
  - d. Familiarity
  - e. Reliability
  - f. System Support
  - g. Deliverability
- 3. Management Process
  - a. Planning
  - b. Program Organization
  - c. Management Experience
  - d. Program Interfaces
- 4. Management Methods
  - a. Monitoring
  - b. Personnel Management
  - c. Quality Assurance
  - d. Configuration Management
- 5. Work Environment
  - a. Quality Attitude
  - b. Cooperation
  - c. Communication
  - d. Morale

C. Program Constraints
- 1. Resources
  - a. Schedule
  - b. Staff
  - c. Budget
  - d. Facilities
- 2. Contract
  - a. Type of Contract
  - b. Restrictions
  - c. Dependencies
- 3. Program Interfaces
  - a. Customer
  - b. Associate Contractors
  - c. Subcontractors
  - d. Prime Contractor
  - e. Corporate Management
  - f. Vendors
  - g. Politics

Figure 2 - Potential Development Risks

Using the taxonomy, members of the team identify potential risks. The Risk Analyst records the identified risks from the Risk Worksheets into the acquisition team's Risk Management Database. All risks identified at the meeting are recorded, even if they do not seem to fit the taxonomy categories.

2.2.2 Step 2: Analyze risks

At each Risk Review Meeting, the Risk Review Team will analyze each identified risk in the acquisition team's Risk Management Database in terms of its impact on cost, schedule, and technical implementation. An individual risk may impact more than one of these categories. For example, frequently changing requirements will impact all three, although a root cause must be determined with a focus towards a single category. The team will identify any new risks to be included in the risk taxonomy. For each risk in the acquisition team's Risk Management Database and any identified new risk, the team will analyze the probability of occurrence or "Likelihood", the degree of impact or "Consequence", its timeframe or "Impact Horizon", and its practitioner. Using the guidance in Table 1 and Table 2, likelihood and consequence can be established.

Likelihood, as defined in FAA Risk Radar™, ranges from 0.1 to 0.9, where 0 means it will not happen and 1 means it will definitely happen. Thus a probability of 0.6 means a 60 percent chance of happening or will happen 6 out of 10 times in the same circumstances. Factors used to determine likelihood are contained in Table 1 to assist the team in developing a uniform approach. These factors were defined and agreed to as part of Step 1.

Table 1 - Likelihood Factors AND-320 Risk

	Maturity	Complexity	Dependency	Stability
A (0.1–Very Low)	Technology exists and can be used "as is"	Simple relative to current environment	Entirely within program control	External factors will not make any change
B (0.3-Low)	Technology requires minor change before use	Minor complexity relative to current environment	Depends on existing product supplied from outside organization	External factors will make minor changes
C (0.5-Moderate)	Technology requires major change before use	Moderate complexity relative to current environment	Depends on supply and modification of existing product from outside organization	External factors will make minor changes
D (0.7- High)	Technology requires significant design and engineering before use	Significant complexity relative to current environment	Depends on new development from outside organization	External factors will make significant changes
E (0.9-Very High)	State of art, only research performed (no design yet)	Extremely complex relative to current environment	Depends on finding development from outside organization	External factors will make constant changes

Consequence is an estimate of the magnitude of the impact if the risk materializes. Consequence is a function of the type of risk – technical, schedule or cost. Even though two or more types of impacts may affect a risk, only a single predominate type of impact should be used during the prioritization. Table 2 provides guidelines for determining the Consequence of a given risk based on the category it is associated with.

Table 2 - Consequence Values for AND-320

Magnitude	Technical	Schedule	Cost
1 – Very low	Minimal or no technical impact	Schedule estimate not exceeded, some minor schedule changes	Budget estimates not exceeded, some transfer of funds
2 - Low	Minor performance impact, same approach retained	Milestones moved by more than 10%	Cost estimate exceeds baseline by 10%
3 - Moderate	Moderate performance impact, alternative approaches available	Dramatic rescheduling required to maintain Joint Resources Council baseline.	Dramatic cost adjustments required to maintain Joint Resources Council baseline.
4 - High	Unacceptable performance but alternatives available	Schedule estimates will exceed Joint Resources Council baseline	Cost estimates exceed Joint Resources Council baseline
5 – Very high	Technical goals can not be achieved	Schedule estimates will cause program to be cancelled	Budget estimates will cause program to be cancelled

Both the likelihood and consequence values for each risk are based on professional judgment and past experience and will change over time. The primary purpose of both is to rank risks relative to one another. The absolute value of the risk is unimportant, but consistent use over the life of the program is essential.

The team also evaluates when the risk is most likely to occur, how frequently the risk will occur, and whether its impact will change over time. The team also needs to determine the Impact Horizon of the risk. The Impact Horizon is defined in terms of short-term, mid-term and long-term and defines when the risk is likely to impact the program. Risk Radar™ utilizes the Impact Horizon has a risk assessment element.

At the completion of the analysis, the Risk Analyst records the team's analysis in the acquisition team's Risk Management Database, and the results are presented to the Risk Review Team.

2.2.3 Step 3: Prioritize risks

Using the data from Step 2, the current Risk Exposure for each risk is calculated and mapped onto a Risk Exposure Matrix (see sample in Figure 3). The risk exposure is defined as the product of the likelihood times the consequence of occurrence. Each risk will have a quantitative value that is mapped by FAA Risk Radar™.

The Risk Exposure Matrix can be used to develop a graphic display of program risk. A sample matrix from FAA Risk Radar™ is shown in Figure 3 below.

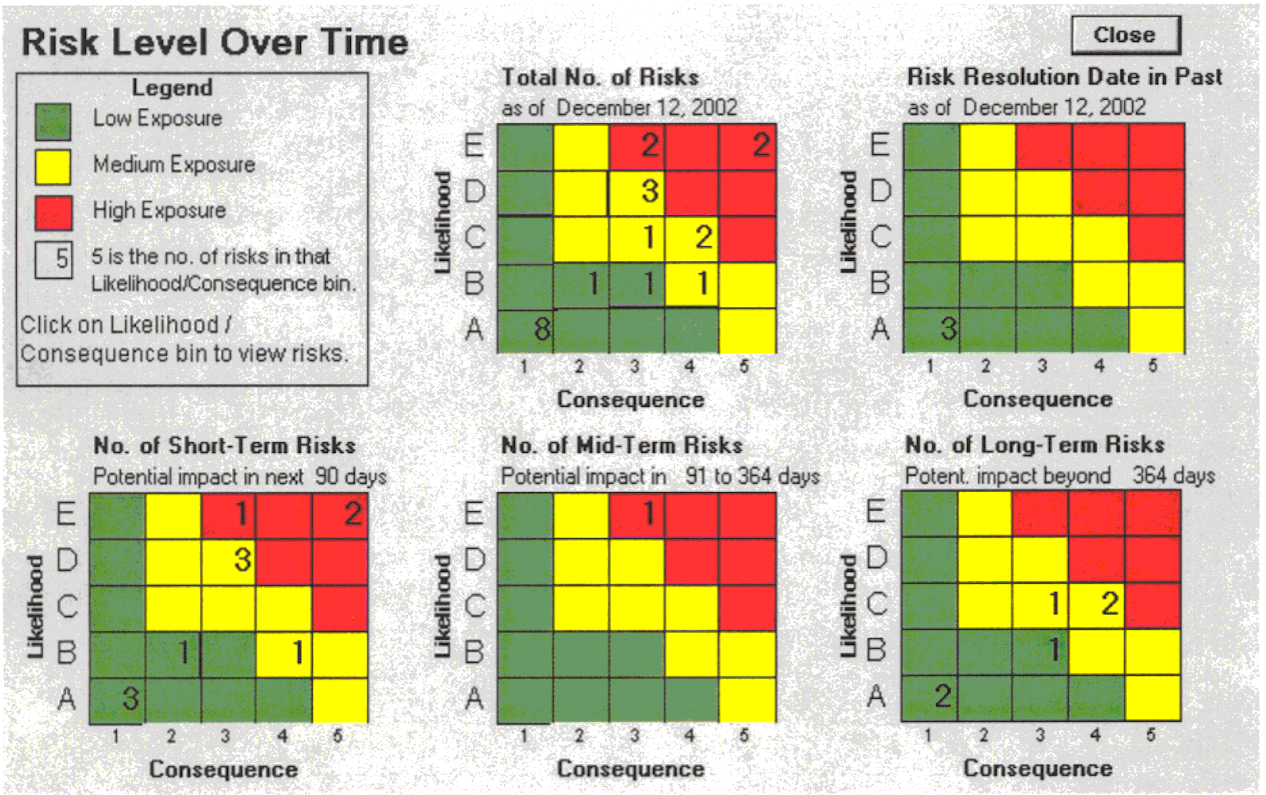


Figure 3 - Risk Exposure Matrix

The acquisition risk management personnel evaluating the exposure value for each risk can determine when appropriate mitigation action will be required. In addition, the risks should be prioritized based on agreed to factors, including:

- Exposure (product of Likelihood and Consequence)
- Impact Horizon (how far in the future the risk is likely to occur)
- Risk Status (level of activity associated with the risk)

FAA Risk Radar™ provides a tool to assist in the prioritization of risks.

At the conclusion of risk prioritization, a consolidated list of risks is created and the updated risk forms are entered into the database. The Risk Analyst then creates a new listing of risks by rank and distributes it to the team. A sample risk summary is shown in APPENDIX B.

2.2.4 Step 4: Risk avoidance analysis

The Risk Review Team will analyze the ranked list of risks to determine if there are any actions or decisions that could eliminate any of the identified risks. This step focuses on constant process improvement by identifying changes to organizational or program processes that would eliminate, or substantially reduce, a given risk.

2.2.5 Step 5: Define mitigation plan

The Risk Review Team determines what actions or decisions could reduce the probability and/or severity of impact of each risk event. The Risk Analyst documents mitigation plans that are practical and records them in the acquisition team's Risk Management Database. A mitigation plan needs to be developed for each identified risk. For those risks with medium or high-risk exposure, the mitigation plan will be reviewed (revised if necessary) during each Risk Review Meeting.

2.2.6 Step 6: Define contingency plan

A contingency plan will be developed when the execution of the mitigation plan is unable to mitigate the risk successfully to obtain the objective. For each risk with high-risk exposure, the practitioner shall determine the cause or trigger for the implementation of the contingency plan. The trigger must be a measurable or observable circumstance. This "trigger" will be documented in the acquisition team's Risk Management Database.

Variance tracking is one example of a quantitative trigger. Example: when the Actual Cost of Worked Performed exceeds one standard deviation from the planned values, the cause will be investigated and recommendations will be made.

Examples of contingency plans for risks that affect product quality would include:

- Redesign to correct the deficiency.
- Reallocate requirements to maintain specified overall system performance.
- Define reduced performance thresholds that still exceed minimum acceptable requirements.

2.2.7 Step 7: Define risk metrics

For each risk, the assigned risk practitioner documents the measurable or observable event(s) that can be tracked to determine if the risk is being avoided, prevented, or minimized.

For example, if testing has been identified as a high-risk function, then tracking test coverage analysis at unit test time and determining error removal rates for design review, unit testing, and integration testing could serve as key metrics. Other possible test metrics could include tracking the delta between open and closed trouble reports and tracking error density by trouble report priority.

To ensure continuous process improvement, the risk practitioner defines and documents the measurements to be collected and analyzed on the risk process itself (see paragraph 3.0 below).

2.2.8 Step 8: Implement mitigation plans

For each risk, conduct the activities necessary to implement the reduction/mitigation plans addressed in step 5 above. The decision and approach to execute the mitigation plan are based on professional judgment and past experience of the Risk Team Members. These activities should be documented in the acquisition team's Risk Management Database with each risk reduction scenario. Examples could include:

- Low Risk. Good system engineering practices would mitigate problems at this level.
- Medium Risk. This risk level would qualify as an action item at status review meetings.
- High Risk. This level requires formal control and monitoring and development of a risk contingency plan. Each risk at this level should have a well-defined entrance criterion that triggers the contingency plan. The deviation values should be set narrow enough to raise a risk flag in time to allow the

program leadership time to respond, yet open enough to not create excessive raised flags. The deviation value should be documented with the metric description.

2.2.9 Step 9: Track risk metrics

Collect, analyze, and report on the status of each risk as determined by the process defined in step 7. Each risk issue and its associated metric should be reported in accordance with this plan. The Acquisition Team Lead should ensure the timely reporting of the raw data that the metric is based, ensure the reporting procedures of the implementing plan are being followed, and ensure that derived metrics are computed. The engineering lead should receive and analyze the reports, ensure that the reports are properly filed or archived, and take appropriate corrective actions as required.

The engineering lead shall implement reporting procedures that raise attention flags whenever a reported metric or parameter exceeds the pre-established entrance criterion.

All risks will be tracked and reported to the Acquisition Team Lead at the quarterly meeting of the Risk Review Team.

2.2.10 Step 10: Implement contingency plan

If the data shows that the entrance criterion for a given risk has been met, then implement the contingency plan for that risk. The decision and approach to execute the contingency plan are based on professional judgment and past experience of the Risk Team Members. Notify the Acquisition Team Lead of the need to invoke a contingency plan. Program management should reallocate resources as necessary to execute the contingency plan.

2.3 Verification, assessment, and measurement review

The results of a risk analysis, presented in the Risk Status Report, are reviewed and prioritized by the Risk Review Team. At a minimum, the group will review the contingency and mitigation plans for all risks with high-risk exposure. The review will culminate in a formal presentation of the results to all product personnel who are involved in the management of the program. Key considerations include having all participants attend and conducting the presentation such that all participants know what happened to "their" risks. In addition, the Acquisition Team Lead, and Product Team Lead review the risks with high-risk exposure monthly.

A sample outline for the presentation is:

a. Review the risk assessment processes
b. Present the complete database of risks with attributes
c. Present all risks evaluated as high
d. Describe contingency events and summarize the associated plan of action.

2.4 Resources

The following resources are required to meet integrated Capability Maturity Model Process Area 13, Risk Management:

1. The following tools are needed to manage this process:
   a. Risk Management Database (based on FAA Risk Radar™, Version 4.5 or later, see APPENDIX A)
   b. Risk Worksheets (APPENDIX A)
   c. Potential Development Risks (Figure 2)
2. It is anticipated that the participants will require 5 to 20 hours per month participating in risk management activities, depending on the risk activities scheduled.

3.0 METRICS

Evaluating the risk analysis process may include recording the following measurement data associated with risk management activities:

1) Each time a risk assessment is performed, record
3) The date of the risk assessment
4) The risk status
   i) Risks eliminated
   ii) Risks reduced (high to medium; medium to low)
   iii) Risks turned into issues
   iv) Risk resolution date
   v) Date of last update to mitigation plan for each risk.
2) Updating the following risk exposure metric
3) Risk Mitigation Report
4) Risks by Rank Report
5) Retired Risk Report
6) Risk by Risk Exposure Graph
7) Risk Mitigation Progress by Risk Exposure
8) Risk Mitigation Progress Report by Risk Area

Appendix A – Risk Management Tool

The FAA's Risk Radar™ Version 4.5 is to be used as the Risk Management Tool for each of the AND-320 Acquisitions and for the AND-320 Risk Management Database. Specific details on how to use the tool are defined in the FAA Risk Radar™ User's Manual, September 2002 and will not be repeated here. Each Acquisition team will develop and track their individual Risk Management Database. In addition, they wil supply their risk assessment data to support the AND-320 Risk Management Database.

The Risk Management Database is a Microsoft Access database with Risk Radar™ macros layered on top. Since Access updates its database with each entry, no saving of the file is required. Therefore, in order to save incremental versions of the database, a unique file for each version must be created. Before each review, a unique access file should be copied from the last version. The file name will be "PPP Risks as of yymmdd" with PPP = acquisition program name (or AND-320 for the summary database), yy = year, mm = month and dd = day. The file should be created at the beginning of each update session or review. The Ris Analyst maintains each Risk Management Database.

The "Project Set Up" data that is required for Risk Radar™ is as follows:

- **Project Start & End Dates**

- **Impact Horizon**
  - Short Term
  - Mid Term
  - Long Term

- **Risk Categories**
  - Cost
  - None
  - Product
  - Schedule
  - Technical

- **Status Categories**
  - None
  - Mitigate
  - Transfer
  - Execute Contingency
  - Retired
  - Watch

- **Phase**
  - None
  - Concept Exploration
  - Needs Determination
  - Systems Requirements
  - Hardware Engineering
  - Software Engineering
  - Hardware/Software Integration
  - Operational Test
  - Acceptance Test

- **Control Categories**
  - External
  - Internal
  - Internal & External
  - None

- **Risk Source**
  - None
  - Security
  - Maintainability
  - Reliability
  - Supportability
  - Human Factors
  - Availability
  - Decommissioning
  - Producibility
  - Commonality
  - Training
  - Operations
  - Test
  - Verification
  - System Integration
  - Staffing
  - Tools
  - System Performance
  - Technology
  - Planning
  - Transition
  - Environments
  - Interdependencies

- **Milestones**
  - Preliminary Requirements Review
  - Preliminary Design Review
  - Critical Design Review
  - Integration and Test Review
  - Operation Test and Evaluation
  - Acceptance Test
  - Final Deployment

As a minimum, the following forms, tables and reports will be used:

- Edit Risks Long or Short Form
- FAA Risk Worksheet (see Figure 4)
- Prioritize Risks

FAA Risk Worksheet

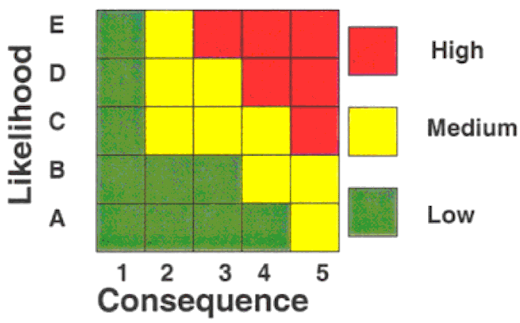
Program/Project Title_____ **Seq. #:** _____

Submitted by: _____ **Date:** _____

1 Risk:	2 Point of Contact:

3 Source and Root Cause:

4 Risk Assessment			Rationale
o Technical	o Schedule	o Cost	
Likelihood	A B C D E		
Consequence	1 2 3 4 5		



Consequence Definition:

Risk Resolution Date:

5	Mitigation Options	Description	New Risk Level if Implemented
☐	Avoidance		H M L
☐	Transfer		H M L
☐	Control		H M L
☐	Assumption		H M L
☐	Research & Knowledge		H M L

Figure 4 - FAA Risk Worksheet

Appendix B - Required Work Products - Sample Reports

This section identifies the required work products, sample reports, including Risk Summary Report by Rank, Risk Register, etc. All work products are required to maintain at least the same level of detail and appearance as the samples.

Figure 5 - Sample Report -Summary: Risks by Rank

Rank	ID	Title	Like	Conseq	RE	Level	Horizon	Status
1	024	Protesting Contract Award	E	5	4.50	H	NEAR	Mitigate
2	025	Removing Off-loading requirement	E	5	4.50	H	NEAR	Mitigate
3	007	Effectiveness of design to address Human Factors	E	3	2.70	H	MID	Mitigate
4	002	National Airspace System Infrastructure Management System Interface	E	3	2.70	H	NEAR	Watch
5	009	Requirements Stability	D	3	2.10	M	NEAR	Mitigate
6	016	Cost-Reimbursable interface development	D	3	2.10	M	NEAR	Mitigate
7	013	Schedule Slip	D	3	2.10	M	NEAR	Mitigate
8	018	Off-loading between the AFSSs	C	4	2.00	M	FAR	Watch
9	015	Unavailable Government Equipment	C	4	2.00	M	FAR	Mitigate
10	017	Access Time	C	3	1.50	M	FAR	Mitigate
11	003	Interface Development	B	4	1.20	M	NEAR	Watch
12	011	Test and Evaluation	B	3	.90	L	FAR	Mitigate
13	010	Security	B	2	.60	L	NEAR	Mitigate
14	005	Transition	A	1	.20	L	FAR	Watch
15	004	Supportability	A	1	.20	L	FAR	Watch
16	023	Funding Requirements	A	1	.10	L	NEAR	Mitigate
17	022	Funding deferred or inadequate	A	1	.10	L	NEAR	Mitigate
18	021	Telecom Interface	A	1	.10	L	PAST	Mitigate
19	020	Manufacturing Capabilities	A	1	.10	L	PAST	Mitigate
20	019	Product Maturity	A	1	.10	L	PAST	Mitigate
21	006	NDI Products don't meet basic requirements	A	1	.10	L	NEAR	Execute

FAA Risk Radar™, 4.5: -12/13/2002

Figure 6 - Sample Report -FAA Program Risk Register

Program/Project: Automated Flight Service Station Voice Switch

Risk #	Likelihood	Consequence	Risk Level/ Change		Risk Item/Consequence	Risk Resolution Date	Mitigation Status	Risk Type
2	E	3	H	⇒	National Airspace System Interface Management System Interface	31/12/10	7	T
3	B	4	M	⇒	Interface Development	31/12/10	7	T
4	A	1	L	⇒	Supportability	31/12/10	7	C
5	A	1	L	⇒	Transition	31/12/10	7	P
6	A	1	L	⇒	NDI Products don't meet basic requirments	31/12/10	4	T
7	E	3	H	⇒	Effectiveness of design to address Human	31/12/10	2	T
9	D	3	M	⇓	Requirements Stability	31/12/10	2	P
10	B	2	L	⇑	Security	31/12/10	2	T
11	B	3	L	⇑	Test and Evaluation	31/12/10	2	T
13	D	3	M	⇓	Schedule Slip	31/12/10	2	S
15	C	4	M	⇑	Unavailable Government Equipment	31/12/10	2	S
16	D	3	M	⇒	Cost-Reimbursable interface development	31/12/10	2	C
17	C	3	M	⇓	Access Time	31/12/10	2	S
18	C	4	M	⇑	Off-loading between the AFSSs	31/12/10	7	T
19	A	1	L	⇑	Product Maturity	15/07/02	2	T
20	A	1	L	⇑	Manufacturing Capabilities	21/06/02	2	P
21	A	1	L	⇑	Telecom Interface	31/12/10	2	T
22	A	1	L	⇒	Funding deferred or inadequate	31/12/10	2	C
23	A	1	L	⇑	Funding Requirements	31/12/10	2	C
24	E	5	H	⇑	Protesting Contract Award	15/01/03	2	P
25	E	5	H	⇓	Removing Off-loading requirement	15/01/03	2	P

Consequence Key:
1 = Minimal Impact
2 = Minor, able to maintain same approach
3 = Moderate shortfalls, workaround exists
4 = Unacceptable, workarond exists
5 = Unacceptable, no alternative exists

Risk Level:
H - High M - Medium L - Low
⇒ = Same as last report
⇑ = Up from last report
⇓ = Downfrom last

Risk Type:
T - Technical
S - Schedule
C - Cost